

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-20 are pending in the present application. Claims 1, 4-7, 10-14, 16, and 17 have been amended and new Claims 19 and 20 have been added to better highlight the control of the initial electric power supplied to the heater based on a tentatively determined source frequency before detection of the actual source frequency. Support for these amendments and new Claims 19 and 20 appears in the original claims and in Figs 5-9, for example. Accordingly, no new matter has been introduced.

In the outstanding Official Action, Claims 1-18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Okado (U.S. Patent No. 5,493,485) in view of Kamie et al. (U.S. Patent No. 6,034,790, Kamie) or Kawashima et al. (U.S. Patent No. 5,793,623, Kamie).

Before considering this obviousness rejection based on Okado in view of Kamie or Kawashima, it is believed that a brief review of the present invention would be helpful. In this regard, one aspect of the present invention includes a heater apparatus that is operable by an alternating current having one of a plurality of frequencies and includes elements that will detect the zero-cross point of a voltage waveform of the alternating current from an electric power source that will supply electric power to the heater and also generate a zero-cross signal based thereon. The heater apparatus also includes a frequency detecting element that will detect the actual frequency of the alternating current from the electric power source based upon the zero-cross signal and an element that will control the manner that electric power is supplied to the heater. In this last regard, this control element will provide initial control of the electric power being supplied to the heater based on a tentatively determined frequency of the alternating current corresponding to one of the plurality of frequencies before an actual frequency is detected by the frequency detecting element. After this

frequency detecting element detects the actual frequency of the alternating current from the electric power source, the control element then controls the electric power supplied to the heater based on this actual detected frequency.

Another aspect of the invention includes a method that has similar features in method step format.

Turning to the rejection of Claims 1-18 under 35 U.S.C. §103(a) as being unpatentable over Okado in view of Kamie or Kawashima, it is believed to be clear that the primary reliance on Okado as teaching a “variation of power supplied to a heating device which is responsive to the input power supply frequency as claimed” is based upon a misinterpretation of the claimed subject matter.

In this regard, while Okado is concerned with a protection circuit for an inverter 2 supplying power to a load 9 along with an AC source 8 that will detect frequency as part of a protection circuit to insure that inverter output current is coincident with a current reference, it is not clear how the PTO has concluded that Okado teaches load 9 to be the heater recited by all the original claims, much less the “fixation device equipped with said heater” as required by original Claim 7, and original Claims 8-12 that depend on original Claim 7.

In any event, it is clear that the original Claims 1-18 all required that the control of the electric power being supplied to this recited heater had to be initially “based on the tentatively determined frequency” and then the control of this supply of electric power to this heater was to change over “after the frequency of the alternating current is detected.” To whatever extent that Okado teaches frequency detectors, Okado does not teach or suggest any change in control from an initial “tentatively determined frequency” to some thing else because of the detection of any frequency, besides not teaching or suggesting the use of a “tentatively determined frequency” at startup as admitted at the bottom of page 2 of the outstanding Action.

Moreover, while FIG. 8 of Kamai (not FIG. 18 as noted at the bottom of page 2 of the outstanding Action) does have a “step 3,” this labeled step is indicated to drive a discharging lamp, not a heater-lamp. As well understood by the artisan, a heater-lamp portion of a fixing device is not the same as the discharge lamp. Moreover, FIG 17 of Kamai also has a “step 3” that includes driving a discharging lamp, not a heater or heater-lamp. This FIG. 17 also shows “initializing step 1 occurring before the step 1a of determining power supply frequency to be 50 or 60 Hz, but FIG. 17 and col. 23, lines 29-44 suggest nothing but a zeroing of Fss and Nz during initialization.

Kawashima is concerned with driving an air conditioning device that does not qualify as analogous art. See MPEP §2141.01(a). Moreover, a careful consideration of “BACKGROUND OF THE INVENTION” of Kawashima that treats the sequential operation of a compressor, a condenser, a decompressor, and an evaporators, fail to make clear what the PTO believes to be taught by the Kawashima “discussion of the prior art” that is relevant to the supply of power to a heater based on a tentatively determined frequency of an alternating current corresponding to one of a plurality of frequencies to eventually be determined by frequency detection. At best, col. 5, lines 22-24 of Kawashima teach that it has been known to operate a compressor at 60Hz **FOR THE FIRST ONE MINUTE FROM ACTIVATION TO STABILIZE THE ACTIVATION AND REFRIGERATION CYCLE** that is not relevant to operating a heater nor changing power to a heater based on a tentative frequency to one of a plurality of frequencies due to actual frequency detection.

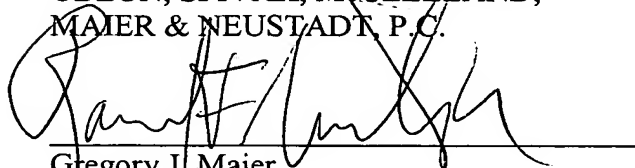
Accordingly, the rejection of Claims 1-18 under 35 U.S.C. §103(a) as being unpatentable over Okado in view of Kamie or Kawashima is traversed.

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Reply to Office Action of 03/15/2005

As no other issues are believed to remain outstanding relative to this application, it is believed to be clear that this application is in condition for formal allowance and an early and favorable action to this effect is, therefore, respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

A handwritten signature in black ink, appearing to read 'Gregory J. Maier', is written over a horizontal line.

Gregory J. Maier
Attorney of Record
Registration No. 25,599

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

Raymond F. Cardillo, Jr.
Registration No. 40,440

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